APPLN. FILING DATE: APRIL 19, 2001
TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE
HEPATIC STAGES OF P. FALCIPARUM BEARING...
INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL
APPLICATION SERIAL NO: 010830-116
SHEET 1 of 18

(5') 1 SDLEQERRAKEKLQEQQ 18 SDLEQDRLAKEKLQEQQ 35 SDLEQERLAKEKLQEQQ 52 SDLEQERRAKEKLQEQQ 69 SDLEQERRAKEKLQEQQ 86 SDLEQDRLAKEKLQEQQ 103 SDLEQERRAKEKLQEQQ 120 SDLEQERKAKEKLQEQQ 137 SDLEQERLAKEKLQEQQ 154 SDLEQERRAKEKLQEQQ 171 SDLEQERRAKEKLQEQQ 188 SDLEQERRAKEKLQEQQ 205 RDLEQ 210 RKADTKKNLERKKEHGDILAEDLYGRLEIP 240 AIELPSENERGYYIPHQSSLPQDNRGNSRD 270 SKEISIIEKTNRESITTNVEGRRDIHKGHL 300 EEKKDGSIKPEQKEDKS 316 (3')

APPLN. FILING DATE: APRIL 19, 2001
TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE
HEPATIC STAGES OF P. FALCIPARUM BEARING...
INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL
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SHEET 2 of 18

AAAGCGATTTAGAACAAGATAGACTTGCTAAAGAAAAGTTACAAGAGCAGC AAAACAAATAGAGAATCTATTACAACAAATGTTGAAGGACGAAGGGATATA AAAGCGATCTAGAACAAGAGACGTGCTAAAGAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGATAGACTTGCTAAAGAAAAGTTACAAGAGCAGC AAAGCGATTTAGAACAAGAGACTTGCTAAAGAAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGAGACGTGCTAAAGAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGAGACGTGCTAAAGAAAGTTGCAAGAACAAC :AGGACAACAGAGGGAATAGTAGAGATTCCAAGGAAATATCTATAATAGAA CATAAAGGACATCTTGAAGAAAGAAGATGGTTCAATAAAACCAGAACAA AAAGCGATTTAGAACAAGAGACTTGCTAAAGAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGAGAGGCGTGCTAAAGAAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGAGACGTGCTAAAGAAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGAGAGGTGCTAAAGAAAAGTTGCAAGAACAAC AAAGCGATTTAGAACAAGAGACGTGCTAAAGAAAGTTGCAAGAGCAGC AAAGCGATCTAGAACAAGAGACGTGCTAAAGAAAAGTTGCAAGAACAA AGGAAGGCTGATACGAAAAAAATTTAGAAAGAAAAAAGGAACATGGAGAT CCATCAGAAAATGAACGTGGATATTATATACCACATCAATCTTCTTTACCT ATATTAGCAGAGGATTTATATGGTCGTTTAGAAATACCAGCTATAGAACT־ 950 (3') AAAGAGATTTAGAACAA **AAAGAAGATAAATCT** 358 409 460 511 562613 630 834 307 783 681 732 (21)

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SHEET 3 of 18

RDELFNELLNSVDVNGEVKENILEESQVNDDIFNSLVKSVQQEQQ HNVEEKVEESVEENDEESVEENVEENVEENDDGSVASSVEESI ASSVDESIDSSIEENVAPTVEEIVAPTVEEIVAPSVVEKCAPSVE ESVAPSVEESVAEMLKER

APPLN. FILING DATE: APRIL 19, 2001
TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE
HEPATIC STAGES OF P. FALCIPARUM BEARING...
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GAA AGT CAA GTT CAA CAA GAA CAA GAT GTT GAG CAC AAG ACG TTG TTG

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INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL
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LSA-TER 7295-NRI 7295-NRII 7295-RED

FIGURE 5

**VEKCAPSVEESVAPSVEESVAEMLKER** 

DELFNELLNSVDVNGEVKENILEESQ LEESQVNDDIFSNSLVKSVQQEQQHNV

NSRDSKEISIIEKTNRESITTNVEGRRDIHK

APPLN. FILING DATE: APRIL 19, 2001

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### NUCLEOTIDE SEQUENCE OF THE LSA GENE 5' END

### (NON-CODING 5' END)

1 AAAGTATACATCTTCCTTCTTTACTTCTTAAA

(CODING 5' END, UNIQUE)

33	TGAAACATATTTTGTACATATCATTTTACTTTATCCTTGTTAATTTATTG
----	--

- 84 ATATTTCATATAAATGGAAAGATAATAAAGAATTCTGAAAAAGATGAAATCA
- 135 TAAAATCTAACTTGAGAAGTGGTTCTTCAAATTCTAGGAATCGAATAAATGA
- 186 GGAAAATCACGAGAAGAAACACGTTTTATCTCATAATTCATATGAGAAAACT
- 237 AAAAATAATGAAAATAATAAATTTTTCGATAAGGATAAAGAGTTAACGATGT
- 288 CTAATGTAAAAATGTGTCACAAACAAATTTCAAAAGTCTTTTAAGAAATCT

- 441 AAGGGCAAGACGAAAACAGACAAGAAGATCTTGAAGAAAAAGCA

### (CODING 5' END, repetitive)

- 492 GCTAAAGAAAGTTACAGGGGCAACAAAGCGATTCAGAACAAGAGAGACGT
- 543 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGAC<u>T</u>T
- 594 GCTAAAGAAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 645 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGAC<u>T</u>T
- 747 GCTAAAGAAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 798 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGAC<u>T</u>T
- 849 GCTAAAGAAAGTT<u>A</u>CAAGA<u>G</u>CA<u>G</u>CAAAGCGATTTAGAACAAGA<u>T</u>AGAC<u>T</u>T
- 900 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 951 GCTAAAGAAAGGTTGCAAGAACAACAAAGCGATTTAGA 988

TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING... INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL SHEET 7 of 18 **APPLICATION SERIAL NO: 010830-116** 

... AAGCGATTTAGA linear b.p. ATGAAACATATT -> 1-phase Translation 926 LSA.5'/ATG -DNA sequence

CTT AAG lys GTT val phe CAC his GAT asp AAC asn AAA lys TTC AAT asn TCT AAG 1ys leu phe TTA AAA lys GAG glu AAA lys AAT asn AAA lys AAT asn ACA thr AAT AAT asn CAC his asn AAT asn GAA glu AAT asn GTT val ATC ile CAA gln GAA glu GAA glu leu GAA glu TCA AAA lys GAG glu GAT asp AAT asn GTG leu AAA lys AAT asn AAT asn AAT asn GAA glu 51 ATA ile 71 AAA AAA lys lys 111 CGAser AAG AAT lys asn asn 151 AAT asn 211 211 1ys 271 271 AAT asn 331 GAG AGG GAG glu arg ser ATA ile TCT TAT ATG met TTG leu ATA ile AAT asn TCA ser ACG thr GGT AAG lys TCA ser AAT asn TTA CTT / 1 AAA CAT lys his / 21 AAT GGA asn gly / 41 GGT TCT ser 61 CAT CAT his 81 GAG GAG 101 asn / GGT gly / TCT ser / AAA AAA AAA AGA 1 ATG Met 61 61 121 121 181 181 181 181 181 GAT GAT asp 301 TTA

	999	gly	) )	999	Z]V		AGC	Ser	; ;	GAA	glu	5	AGA	arg	0	AAA	lvs		TTG	len
	AAA	lys	ı	CAG	gln	)	CAA	gln	; 5	TTA	len	i !	GAG	glu	5	GCT	ala	<b>i</b>	AAG	lys
	ATT	ile		TTA	leu		CAA	gln	<b>.</b>	GAT	ase	-	CAA	gln	; 5	CGT	a g	<b>)</b>	GAA	glu
	TAT	tyr		AAG	lvs	,	GAA	glu	) )		ser		GAA	glu	ָ כ	AGA	arg		AAA	lys
	AAA	lys		GAA	glu	)	CAA	gln	)	CAA	gln	)	TTA	leu		GAG	glu	<b>)</b>	GCT	ala
	AAA	lys		AAA	lys	•	TTG	len		CAA	gln	)	GAT	asp	-	CAA	gln	)	CGT	arg
		lys		CCT	ala		AAG	lys	,	GAA	glu	)	AGC	Ser		GAA	glu	)	AGA	arg
	GAT	asp		GCA	ala		GAA	glu	)	CAA	gln	)	CAA	gln	)	TTA	len		GAG	nlg
		asp		AAA	lys	•	AAA	lys	•	TTG	leu		CAA	gln	)	GAT	asp	•	CAA	gln
	GAT	asp		GAA	glu	,	GCT	ala		AAG	lys	•	GAA	glu	)	AGC	ser		GAA	nlg
131	GAT	asp	151	GAA	glu	171	CGT	arg	191	GAA	glu	211	CAA	gln	231	CAA	gln	251	TTA	len
\	AAT	asn	\	CTT	len	_	AGA	arg	_	AAA	lys	_	TTG	leu	_	CAA	gln	_	GAT	asb
391	ATA	ile	451	GAT	asp	511	GAG	glu	571	GCT	ala	631	AAG	lys	691	GAA	glu	751	AGC	ser
	ATA	•—		GAA	ρĎ		CAA	ρū		CTT			GAA			CAA			CAA	gln
		his																	CAA	
																			GAA	
																			CAA	
121	TTA	leu	141	GAA	glu	161	AGC	ser	181	GAA	glu	201	AGA	arg	221	AAA	lys	241	TTG	len
\	AAA	lys	\	GAC	asb	_	CAA	gln	\	TTA	len	\	GAG	alu	_	CT 9	ala	\	AAG	lys
361	999	gly	421	CAA	gln	481	CAA	gln	541	GAT	asb	601	CAA	gln	661	CTT	len	721	GAA	n1g

## FIGURE 7B

TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING...
INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL APPLICATION SERIAL NO: 010830-116 SHEET 9 of 18

CAG gln	AT ISP	
GAG C glu g		
CAA G	CAA A	TA .eu
TTA ( leu §	CAA CAA A gln gln s	SAT 7
AAG . 1ys .	GAA (gla	AGC ( ser a
GAA glu	CAA GAA gln glu	CAA /
AAA 1ys	TTG leu	CAA gln
GCT ala	AAG 1ys	GAA glu
CTT GCT leu ala	GAA glu	CAA gln
AGA arg	AAA 1ys	TTG leu
271 GAG glu 291	GCT ala 311	AGG arg
CAA gln /	CTT leu	GAA glu
811 TTA GAA leu glu 871	AGA arg 931	AAA 1ys
TTA leu	GAT asp	GCT ala
GAT asp		
AGC ser		
CAA gln		
261 CAA gln 281		
GAA glu		_
781 CAA gln 841	CAA gln 901	TTA leu

## FIGURE 7C

TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING...
INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL APPLICATION SERIAL NO: 010830-116 SHEET 10 of 18

### NUCLEOTIDE SEQUENCE OF THE LSA GENE 3' END

### (CODING 3' END, REPETITIVE)

- 1 CAAGAACAACAAAGCGATCTAGAACAAGAGAGACGT
- 37 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGATAGACTT
- 88 GCTAAAGAAAAGTTACAAGAGCAGCAAAGCGATTTAGAACAAGAGAGACTT
- 139 GCTAAGAAAAGTTGCAAGAACAACAAAGCGATCTAGAACAAGAGAGACGT
- 190 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 241 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGATAGACTT
- 292 GCTAAAGAAAGTTACAAGAGCAGCAAAGCGATTTAGAACAAGAGAGACGT
- 343 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 394 GCTAAGAAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACTT
- 445 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 496 GCTAAAGAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 547 GCTAAGAAAAGTTGCAAGAACAACAAAGCGATTTAGAACAAGAGAGACGT
- 598 GCTAAAGAAAGTTGCAAGAGCAGCAAAGAGATTTAGAACAA

### (CODING 3' END, UNIQUE)

- 640 AGGAAGGCTGATACGAAAAAAATTTAGAAAGAAAAAAGGAACATGGAGAT
- 691 ATATTAGCAGAGGATTTATATGGTCGTTTAGAAATACCAGCTATAGAACTT
- 742 CCATCAGAAAATGAACGTGGATATTATATACCACATCAATCTTCTTTACCT
- 793 CAGGACAACAGAGGAATAGTAGAGATTCCAAGGAAATATCTATAATAGAA
- 844 AAAACAAATAGAGAATCTATTACAACAAATGTTGAAGGACGAAGGGATATA
- 895 CATAAAGGACATCTTGAAGAAAGAAGATGGTTCAATAAAACCAGAACAA
- 946 AAAGAAGATAAATCTGCTGACATACAAAATCATACATTAGAGACAGTAAAT
- 997 ATTTCTGATGTTAATGATTTTCAAATAAGTAAGTATGAGGATGAAATAAGT
- 1048 GCTGAATATGACGATTCATTAATAGATGAAGAAGAAGATGATGAAGACT
- 1099 TAGACGAATTTAAGCCTATTGTGCAATATGACAATTTCCAAGATGAAGAAA
- 1150 ACATAGGAATTTATAAAGAACTAGAAGATTTGATAGAGAAAAATGAAAATT
- 1201 TAGATGATTTAGATGAAGGAATAGAAAAATCATCAGAAGAATTATCTGAAG
- 1252 AAAAAATAAAAAAGGAAAGAAATATGAAAAAACAAAGGATAATATTTTA
- 1303 AACCAAATGATAAAAGTTTGTATGATGAGCATATTAAAAAATATAAAAATG
- 1354 ATAAGCAGGTTAATAAGGAAAAGGAAAAATTCATAAAATCATTGTTTCATA
- 1405 TATTTGACGGAGACAATGAAATTTTACAGATCGTGGATGAGTTATCTGAAG
- 1456 ATATAACTAAATATTTTATGAAACTA<u>TAA</u> (stop)

### (NON-CODING 3' END)

1485 AAGGTTATATATTT 1498

TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING... INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL **APPLICATION SERIAL NO: 010830-116 SHEET 11 of 18** 

LSA.3'.ALL -> 1-phase Translation

CAAGAACAACAA ... GGTTATATTTT b.p. 1496 DNA sequence

CAA GAT asp CAA gln CGT arg GAA glu CAA gln AGA arg GAA glu GAA glu AAA lys AGC ser CAA gln CAA gln CTA leu GAG glu AAG 1ys GAA glu TTG leu CAG gln GAT asp CAA gln CTT AAA lys AAG lys GAG glu AGC ser GAA glu AGA arg GAT asp CAA gln TTA GAA glu CAA gln CAA gln AAA lys TTA CAA gln CGT GAT asp GCT ala GAA glu GAA glu AGA arg AAG lys AGC ser GAA glu CAA gln GAG glu TTA CGT arg CAA gln AGA arg AAA lys TTG leu CAA gln GAT asp CAA gln GAG glu GAA glu GAA glu GCT ala AAG 1ys AGC ser / 11 GAA CAA gln CTT leu 51 GAA glu 71 CAA gln 91 CAA gln 111 AGA arg / AAA 1ys / TTG leu / CAA gln / gln / 31 CTA leu 91 91 151 GCT 6CT 6CT 151 178 271 GAA GAA 6AA 6AA GAT asp CAA gln GAA glu CTT CAA gln CAA AGC ser GAA glu AGA arg AAA 1ys TTG CAG gln CAA gln TTA GAG glu GCT ala AAG 1ys GAG , 1 GAA CAA glu gln / 21 AGC GAT asp 41 CAA 61 61 6AA 6AA 6AA CAA CAA AGC ser / GAA GAA AGA arg / AAA TTA TTA leu 

TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL APPLICATION SERIAL NO: 010830-116 SHEET 12 of 18																						
	CAA	gln	TTA	leu		GAG	glu	)	CCT GCT	ala		AAA	lys	,	TTA	leu		CAA	gln		ATA	
	CAA	gln	GAT	asp	-	CAA	gln	)	CGT	arg	•	AAA	lys	•	CGT	a g	)	CAT	his		ATA	ile
	GAA	glu	AGC	ser		GAA	glu	)	AGA	arg		ACG	thr		<b>GGT</b>	gl V	)	CCA	pro		TCT	ser
	CAA	gln	CAA	gln	)	TTA	leu		GAG	glu	I	GAT	asp	•	TAT	tvr	,	ATA	ile		ATA	ile
	TTG	len	CAA	gln	)	GAT	asp	•	CAA	gln	ı	GCT	ala		TTA	leu		TAT	tyr		GAA	glu
	AAG	lys	GAA	glu	)	AGC	ser		GAA	glu	i	AAG	lys	1	GAT	asp	-	TAT	tyr		AAG	lys
	GAA	glu	CAA	gln	)	CAA	gln	)	TTA	leu		AGG	arg	)	GAG	glu	)	GGA	gly		JCC	ser
	AAA	lys	TTG	leu		CAA	gln	ŀ	GAT	asp		CAA	gln	<b>)</b>	GCA	ala		CGT	arg		GAT	asp
	CCT 6CT	ala	AAG	lys	)	GAA	glu	ı	AGC	ser		GAA	nlg	,	TTA	leu		GAA	glu		AGA	arg
	CGT	arg	GAA	glu	ı	CAA	gln	ı	CAA	gln		TTA	leu		ATA	ile		AAT	asn		AGT	ser
	AGA	arg	AAA	lys	1	TTG	len		CAA	gln		GAT	asp		GAT	asp	•	GAA	glu		AAT	asn
131	GAG	glu 151	GCT	ala	171	AAG	lys	191	GAA	glu	211	AGA	arg	231	<b>GGA</b>	gly	251	TCA	ser	271	999	gly
\	CAA	gln /	CTT	len	\	GAA	glu	\	CAA	gln	_	CAA	glu	_	CAT	his	\	CCA	pro	\	AGA	arg
391	GAA	glu 451	AGA	arg	511	AAA	lys	571	TTG	len	631	CAG	gln	691	GAA	glu	751	CTT	len	811	AAC	asn
									AAG												GAC	
	GAT	asp	CAA	gln		CGT	arg		GAA	mlg		CAA	gln		AAA	lys		ATA	ile		CAG	gln
	AGC	ser	GAA	glu		AGA	arg		AAA	lys		TTG	len		AGA	arg	1	GCT	ala		CCT	pro
		gln 141						ന														
		gln /						/1														
361	GAA	glu 421	AGC	ser	481	GAA	nlg	541	AGA	arg	601	AAA	lys	661	AAT	asn	721	GAA	glu	781	TCT	ser

TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE

## FIGURE 9B

		TITLE HEPA Inven Appli	TIC	STAC	ES LAU	OF JDI	P. ve (	FAI GUI	LCI ERI	PA N-N	RU: MAI	M B	EA [A]	RIN ND	۱G	L	18	
																_	_	
	AAA	lys	TCT	ser	CAA	gln		GAA	nlg		GAT	asb		TTA	len		AAA	
		his	AAA	lys		phe		GAA	glu		CAA	gln		AAT	asn		ATA	ile
į	ATA	ile	GAT	asb	GAT	asp		GAT	asp		TTC	phe		GAA	glu		AAA	lys
		asb	GAA	glu	AAT	asn		ATA	ile		AAT	asn		AAT	asn		GAA	glu
(	AGG	arg	AAA	lys	GTT	val		TTA	len		GAC	asp		AAA	lys		GAA	glu
	CGA	arg	CAA	gln	GAT	asp		TCA	ser		TAT	tyr		GAG	glu		TCT	ser
(	GGA	gly	GAA	glu	TCT	ser		GAT	asp		CAA	gln		ATA	ile g		TTA	len
	GAA	glu	CCA	pro	ATT	ile		GAC	asp		6TG	val		TT6	len		GAA	glu
ļ	<u>C1</u>	val	AAA	lys	AAT	asn		TAT	tyr		ATT	ile		GAT	asp		GAA	glu
		asn		ile		val			glu			pro			glu		TCA	
	ACA	thr thr 311	TCA	ser	ACA	thr		<b>CT</b>	ala		AAG	lys	_	CTA	leu	·I	TCA	ser
291	ACA	thr 311	<b>GGT</b>	gly 331	GAG	glu	35.	AGT	ser	373		phe	39.	GAA	glu	41.	AAA	lys
<b>\</b> !	ATT	ile /	GAT	asp /	TTA	len	<b>/</b> 1	ATA	ile	\ 1	GAA	glu	\ 1	AAA	lys	/ 1	GAA	glu
871		ser . 931	AAA	lys 991	ACA	thr	105.	GAA	glu	111	GAC	asp	117	TAT	tyr	123	ATA	ile
		glu		lys													66A	
	AGA	arg	GAA	glu	AAT	asn		GAG	glu		GAC	asp		66A	gly			
  -  -	AAT	asn	GAA	glu	CAA	gln	7	TAT	tyr	—	GAA	glu	_	ATA	ile	<del></del>	GAT	
281	ACA	thr 301	CTT	leu 321	ATA	ile	34	AAG	lys	36	<b>GAT</b>	asp	38			40	TTA	len
<u> </u>	AAA	lys /	CAT	his /	GAC	asp	1 /	AGT	ser	1 /	GAT	asp	1 /	GAA	nlg		GAT	asp
841	GAA	glu 901	66A	gly 961	GCT	ala	102	ATA	ile	108	GAA	nlg	114	GAA	glu	120	GAT	asb

## FIGURE 9C

APPLN. FILING DATE: APRIL 19, 2001
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	TTG	leu	<b>,</b>	AAA	lvs		GAT	asp	<u>.</u>		
	AGT	ser	- 	GAA	glu	; )	GTG	Val			
	AAA	lvs		AAG	1 1 5		ATC	ile		TAT	tvr
	GAT	asp	<u>.</u>	GAA	glu	)	CAG	gln	)	ATA	jle
	AAT	asn		AAG	1 \ S	`	TTA	leu		GTT	Val
	CCA	pro	-	AAT	asn		ATT	ile		AAG	1 \ S
	AAA	lvs	,	TAT GAT GAG CAT ATT AAA AAA TAT AAA AAT GAT AAG CAG GTT AAT AAG GAA AAG GAA AAA	val		GAA	glu	)	TAA	OCH 0
		phe	-	CAG	gln	)	AAT	asn		CTA	len
	AAT	asn		AAG	lys	,	GAC	asp	-	AAA	1 V S
	AAT	asn		GAT	asb	•	<b>GGA</b>	gly	) )	ATG	met
_	GAT	asp		AAT	asn		GAC	asp			phe
43.	AAG	lys	45.	AAA	lys	47.		phe	491	TAT	tyr
1	ACA	thr	1 /	TAT	tyr	1 ,	ATA	ile	1	AAA	lys
179	AAA	lys	135	AAA	lys	141	CAT	his	147	ACT	thr
	GAA	glu	)	AAA	lys	,	TTI	phe		ATA	ile
	TAT	tyr	ı	ATT	ile		TTG	leu		GAT	asp
_	AAA	lys		CAT	his	<del></del> 1	TCA	ser	<b>~</b>	GAA	glu
47	AAG	lys	44	GAG	glu	46	AAA	lys	48	TCT	ser
/ T	66A	gly	1 /	GAT	asb	1 /	ATA	ile	1 /	TTA	leu
97T	AAA	lys	132	TAT	tyr	138	TTC	phe	144	GAG	glu

### FIGURE 9D

APPLN. FILING DATE: APRIL 19, 2001 TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING... INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL

APPLICATION SERIAL NO: 010830-116

1-phase Translation LSN.3'STOP ->

CAAGAACAACAA ... ATGAAACTATAA linear b.p. 1482 seduence

GAA gln GAT asp CAA gln CGT arg CAA gln GAA glu GAA glu AGC ser GAA glu AGA arg AAA lys CTA CAA gln CAA gln GAG glu GCT ala TTG leu CAG gln GAT asp CAA gln GAA glu CTT leu AGA arg GAA glu AAG lys GAG glu AGC ser AAA 1ys GAT asp GAA glu CAA gln CAA gln TTA AAA lys TTA GAT asp CAA gln CAA gln CGT arg AAG lys GCT ala AGC ser GAA glu GAA glu AGA arg CGT arg GAA glu CAA gln CAA gln TTA GAG glu AGA arg AAA lys GAT asp TTG CAA gln GAG glu GCT ala GAA glu AAG 1ys AGC ser GAA glu gln CTT leu 51 GAA glu 71 CAA gln 91 CAA gln 111 AGA arg AAA 1ys 1ys / CAA gln gln / 31 CTA leu 91 91 151 GGT asp 151 211 175 271 GAA GAA GAA GAA GAT asp CAA gln CTT leu GAA glu CAA gln CAA gln AGC ser GAA glu AGA arg AAA 1ys CAG gln TTG leu CAA gln TTA leu GAG glu GCT AAG lys GAG glu 1 CAA gln 61 CAA CAA 121 121 121 181 GAG GCT GCT AAG

APPLN. FILING DATE: APRIL 19, 2001 TITLE: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL APPLICATION SERIAL NO: 010830-116 SHEET 16 of 18													
CAA gln	TTA	leu	GAG	glu	CT GCT	ala	AAA	lys	TTA	leu	CAA	gln	ATA ile
CAA gln	GAT	asb		gln		arg		lys		arg		his	ATA ile
GAA glu	AGC	ser	GAA	glu	AGA	arg	ACG	thr	GGT	gly	CCA		TCT
CAA gln	CAA	gln		len	GAG	glu		asb		tyr		ile	ATA ile
TTG	CAA	gln	GAT	asb	CAA	gln	CCT	ala	TTA	len	TAT	tyr	GAA glu
AAG lys	GAA	glu	AGC	ser	GAA	glu	AAG	lys	GAT	asb	TAT	tyr	AAG lys
GAA glu	CAA	gln	CAA	gln	TTA	len	AGG	arg	GAG	glu	GGA	gly	TCC
AAA lys	<b>TT</b> 6	leu	CAA	gln	GAT	asp	CAA	gln	GCA	ala	<b>L</b> 90	arg	GAT asp
GCT ala	AAG	lys		glu	AGC	ser	GAA	glu	TTA	len	GAA	glu	AGA arg
CGT arg	GAA	glu	CAA	gln		gln	TTA	len	ATA	i 1 e	AAT	asn	AGT ser
AGA arg	AAA	lys	•	len		gln	GAT	asp	GAT			glu	AAT asn
131 GAG glu 151	GCT	ala 171	AAG	lys 191	GAA	glu 211	AGA	arg 231	GGA	gly 251	TCA	ser 271	666 81y
CAA gln /													
391 GAA glu 451											CTT	leu 811	AAC asn
TTA						lys						glu	GAC asp
													CAG gln
						lys							CCT
121 CAA gln 141													
CAA glu													
361 GAA glu 421	AGC	ser 481	6A∆	glt 541	AG⁄	arg 601	AAA	lys 661	AAT	asn 721	GAA	glu 781	TCT

# FIGURE 10B

	TI HI	EPATI	PEP C S	TIDE TAGE	SEC S O	UENO FP.F.	CES ALC	SPEC CIPAR	IFIC UM	C FOR BEAR CHANI	ING	ì		
	AI —	PPLICA	OITA	N SEF	RIAL	No: (	)108	30-110	5 	SHE	ET 1	17 of 1	8	
AAA lys	TCT	ser	CAA	gln	GAA	glu	GAT	asb	TTA	leu	AAA	lys	TTG	leu
CAT his	AAA	lys		bhe	GAA	glu	CAA	gln	AAT	asn	ATA	i le	AGT	ser
ATA ile	GAT	asb	GAT	asp	GAT	asb	TTC	phe	GAA	glu	AAA	lys	AAA	lys
GAT asp	GAA	glu	AAT	asn	ATA	ile	AAT	asn	AAT	asn	GAA	glu	GAT	asp
AGG arg	AAA	lys	GTT	val	TTA	len	GAC	asp	AAA	lys	GAA	glu	AAT	asn
CGA arg	CAA	gln	GAT	asp	TCA	ser	TAT	tyr	GAG	glu	TCT	ser		pro
66A 81y		glu	TCT	ser	GAT	asp	CAA	gln		ile	TTA	len		lys
GAA glu	CCA	pro	ATT	ile	GAC	asb	GTG	val		len	GAA	glu	T	bhe
GTT val	AAA	lys		asn	TAT	tyr		ile	GAT	asb		glu	AAT	asn
AAT asn	ATA	ile	GTA	val	GAA	glu	CCT	pro		glu		ser	AAT	asn
ACA thr	TCA	ser	ACA	thr	GCT	ala	AAG	lys	CTA	len	TCA	ser	GAT	asb
291 ACA thr 311	<b>GGT</b>	gly 331	GAG	glu 351	AGT	ser 371		-			AAA	lys 431		
/ ATT ile	GAT	asp /	TTA	leu /	ATA	ile /	GAA	glu /	AAA	lys/	GAA	glu /	ACA	thr
871 / TCT ATT ser ile 931 /	AAA	lys 991	ACA	thr 1051	GAA	glu 1111	GAC	asp 1171	TAT	tyr 1231	ATA	ile 1291	AAA	lys
GAA glu		lys										gly	GAA	
AGA arg	GAA	glu	AAT	asn	GAG	glu	GAC	asb	GGA	gly	GAA	nlg	TAT	tyr
AAT asn	GAA	glu	CAA	gln	TAT	tyr	GAA	nlg .	ATA	ile	GAT	asb	AAA	lys
281 ACA thr 301	CTT										TTA	leu 421	AAG	lys
AAA lys	CAT	his /	GAC	asp /	AGT	ser /	GAT	asp.	GAA	glu /	じ	asp /	GGA	gly
841 GAA glu 901	GGA	gly 961	GCT	ala 1021	ATA	ile 1081	GAA	glu 1141	GAA	glu 1201	GAT	asp 1261	AAA	lys

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INVENTOR(S): CLAUDINE GUERIN-MARCHAND ET AL APPLICATION SERIAL NO: 010830-116

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AAA 1ys GAT asp GAA glu GTG val AAG lys ATC ile TAT tyr GAA glu CAG gln ATA ile AAG 1ys TTA GTT val AAT asn AAG 1ys ATT ile GTT val GAA glu TAA OCH CAG gln AAT asn CTA leu AAG lys GAC asp AAA 1ys GAT ATG met asb GGA gly GAC asp. TTT phe asn AAA AAT ATA ile / AAA lys AAA lys TTT phe ATA ile GAT asp ATT ile TTG 441 GAG CAT glu his 461 AAA TCA lys ser 481 **ICT GAA** ser GAT asp / ATA ATA ile / TTA Ieu 1321 TAT tyr 1381 TTC, phe 1441 GAG

# FIGURE 10D